

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A Code Division Multiple Access (CDMA) demodulation circuit comprising:

delay profile calculating means for calculating delay profiles of received signals;

path assigning means for assigning path locations to a plurality of fingers based on the a calculation result obtained in said delay profile calculating means; means, the plurality of fingers to which the path locations are being assigned by said path assigning means, the fingers de-spreading the assigned paths; and

rake combining means for combining outputs of said plurality of fingers; fingers; and

~~wherein the CDMA demodulation circuit comprises~~ reception controlling means that estimates a drop cycle of a reception level from the a reception level combined by said rake combining means and that reduces a degradation in receiving characteristics using the an estimation result.

2. (Currently amended) The CDMA demodulation circuit according to claim 1, wherein said drop cycle of the reception level is comprises a fading pitch obtained when receiving, while moving, reception waves that form standing waves ~~with~~ upon being at least one of reflected and diffracted by obstacles.

3. (Currently amended) The CDMA demodulation circuit according to claim 1, wherein said reception controlling means comprises:

drop cycle estimating means for estimating the drop cycle of the a reception level

from the reception level combined by said rake combining ~~means;~~ means; and

path assignment controlling means for controlling said path assigning means based on the estimation result obtained in said drop time estimating means.

4. (Currently amended) The CDMA demodulation circuit according to claim 3, wherein said path assignment controlling means increases guard levels in updating a path timing for the fingers in said path assigning means if said drop cycle estimating means determines that ~~the~~ a dropping of the reception level will be intense.

5. (Currently amended) The CDMA demodulation circuit according to claim 1, wherein said reception controlling means comprises:

drop cycle estimating means for estimating the drop cycle of the reception level from the reception level combined by said combining ~~means;~~ means; and

delay profile averaging cycle controlling means for controlling an averaging cycle for the delay profiles in said delay profile calculating means based on ~~the~~ an estimation result obtained in said drop time estimating means.

6. (Currently amended) The CDMA demodulation circuit according to claim 5, wherein said delay profile averaging cycle controlling means increases ~~the~~ a number of averaging ~~frame~~ frames for said delay profiles if said drop cycle estimating means determines that the dropping of the reception level will be intense.

7. (Currently amended) The CDMA demodulation circuit according to claim 3, wherein ~~the~~ an update of ~~the~~ a finger path assignment in said finger path assignment controlling

means and in said delay profile averaging cycle controlling means is stopped to make said finger path assigning means to maintain ~~the~~ a last result if said drop cycle estimating means determines that ~~the~~ a dropping of the reception level will be intense.

8. (Currently amended) A Code Division Multiple Access (CDMA) demodulation method for a CDMA demodulation circuit comprising delay profile calculating means for calculating delay profiles of received ~~signals;~~ signals, path assigning means for assigning path locations to a plurality of fingers based on the calculation result obtained in said delay profile calculating ~~means;~~ means, the plurality of fingers to which the path locations are being assigned by said path assigning means, the fingers de-spreading the assigned ~~paths;~~ paths, and rake combining means for combining outputs of the plurality of fingers, wherein the CDMA demodulation method comprises:

~~a first step of~~ estimating a drop cycle of a reception level from ~~the~~ a reception level combined by said rake combining means to reduce a degradation in receiving characteristics using ~~the~~ an estimation result.

9. (Currently amended) The CDMA demodulation method according to claim 8, wherein said drop cycle of the reception level is comprises a fading pitch obtained when receiving, while moving, reception waves that form standing waves ~~with~~ upon being at least one of reflected and diffracted by obstacles.

10. (Currently amended) The CDMA demodulation method according to claim 8, wherein said ~~first step~~ estimating comprises:

~~an eleventh step of~~ estimating the drop cycle of the reception level from the

reception level combined by said rake combining ~~means;~~ means; and

~~a twelfth step of~~ controlling said path assigning means based on the estimation result obtained at said eleventh step.

11. (Currently amended) The CDMA demodulation method according to claim 10, wherein guard levels in updating a path timing for said fingers in said path assigning means is increased at said ~~twelfth step~~ controlling if it is determined that ~~the~~ a dropping of the reception level will be intense at said ~~eleventh step~~ estimating.

12. (Currently amended) The CDMA demodulation method according to claim 8, wherein ~~the first step~~ estimating comprises:

~~an eleventh step of~~ estimating the drop cycle of the reception level from the reception level combined by said rake combining ~~means;~~ means; and

~~a thirteenth step of~~ controlling an averaging cycle for the delay profiles in said delay profile calculating means based on the estimation result obtained at said ~~eleventh step~~ estimating.

13. (Currently amended) The CDMA demodulation method according to claim 12, wherein ~~the~~ a number of averaging frames for the delay profiles is increased at said ~~thirteenth step~~ controlling if it is determined that ~~the~~ a dropping of the reception level will be intense at said ~~eleventh step~~ estimating.

14. (Currently amended) The CDMA demodulation method according to claim 10, wherein the method further comprises:

~~a fourteenth step of stopping the an~~ update of the finger path assignments at said ~~twelfth step and at said thirteenth step~~ controlling to make said finger path assigning means to maintain ~~the a~~ last result if it is determined that the dropping of the reception level will be intense at ~~the eleventh step~~ said estimating.

15. (Currently amended) The CDMA demodulation method according to claim 10, wherein the method further comprises:

~~a fifteenth step of~~ resetting processing at said ~~twelfth step~~ controlling to restart from said first process estimating if the drop cycle of the reception level further changes after assigning finger paths in accordance with the estimated drop cycle of the reception level.

16. (Currently amended) The CDMA demodulation method according to claim 10, wherein said ~~eleventh step~~ estimating is performed again after increasing ~~the a~~ guard levels level at said ~~twelfth step~~ controlling.

17. (Currently amended) The CDMA demodulation method according to claim 12, wherein said ~~eleventh step~~ estimating is performed again after increasing ~~the a~~ number of averaging ~~frame~~ frames for the delay profiles at said ~~thirteenth step~~ controlling.

18. (Currently amended) The CDMA demodulation method according to claim 14, wherein said ~~eleventh step~~ estimating is performed again after making said path assigning means to maintain the last result at said ~~fourteenth step~~ stopping.

19. (Currently amended) The CDMA demodulation method according to claim 10, wherein said ~~eleventh step~~ estimating comprises:

a ~~21st step of~~ first determining of whether or not the an absolute value of the a difference between the a last calculated drop cycle of the reception level and the a currently calculated drop cycle of the reception level is equal to or below a predetermined value, value; and

a ~~22nd step of~~ second determining of, if the absolute value is equal to or below the predetermined value, whether or not the determination of the absolute value being equal to or below the predetermined value ~~have~~ has continued for a predetermined number of times.

20. (Currently amended) The CDMA demodulation method according to claim 19, wherein the method further comprises a ~~23rd step of~~ determining an average of the drop cycles of the reception level measured when the determination of the absolute value being equal to or below the predetermined value ~~have~~ has continued for the predetermined times at said ~~22nd step~~ second determining.

21. (New) A Code Division Multiple Access (CDMA) demodulation circuit comprising:

a delay profile calculator that calculates delay profiles of received signals;

a path assigning module that assigns path locations to a plurality of fingers based said delay profiles, the plurality of fingers to which the path locations being assigned by said path assigning module, the fingers de-spreading the assigned paths;

a rake combiner that combines outputs of said plurality of fingers; and

a reception controller that calculates an estimate for a future reception level drop

cycle from a reception level combined by said rake combiner, said estimate being used to reduce a degradation in receiving characteristics of said CDMA demodulation circuit before said reception level actually drops.

22. (New) A Code Division Multiple Access (CDMA) demodulation method comprising:

estimating a future drop cycle of a reception level due to fading; and
applying said future drop cycle estimate to reduce degradation in receiving characteristics before said reception level actually drops.